

IN THE CLAIMS:

What is claimed is

1. (Currently Amended) ~~A thermal reservoir for a two-pipe hydronic air-conditioning system which said two-pipe hydronic air-conditioning system contains a means to heat water, means to chill water, a volume of hot or cold water, a pump to circulate said hot or cold water about a piping loop containing a supply line and a return line and a plurality of water-to-air heat exchangers connected to said supply line and to said return line of said loop, comprising:~~

- ~~a. tank means for storing a volume of hot water in a first portion thereof and cold water in a second portion thereof;~~
- ~~b. first valve means connecting said first portion of said tank to said supply line of said two-pipe hydronic air-conditioning system, second valve means connecting said first portion of said tank to said return line of said two-pipe hydronic air-conditioning system, third valve means connecting said second portion of said tank to said first portion of said tank to said supply line of said two-pipe hydronic air-conditioning system, and fourth valve means connecting said second portion of said tank to said first portion of said tank to said return line of said two-pipe hydronic air-conditioning system.~~

A thermal reservoir for a two-pipe hydronic air-conditioning system which said two-pipe hydronic air-conditioning system contains a volume of water, means to condition the temperature of said volume of water having a first end and a second end, a pump to circulate said water about a piping loop containing a supply line and a return line and a plurality of water-to-air heat exchangers connected to said supply line and to said return line of said loop, comprising:

- a. tank means having a first portion and a second portion which are fluidly

separated from each other;

- b. first valve means having first end and second end;
- c. second valve means having first end and second end;
- d. third valve means having first end and second end;
- e. fourth valve means having first end and second end;
- f. first pipe means connecting said first portion of said tank to said first end of said first valve means;

g. second pipe means connecting said second end of said first valve means to said first end of said second valve means;

h. third pipe means connecting said second end of said second valve means to said second portion of said tank;

i. fourth pipe means connecting said first portion of said tank to said first end of said third valve means;

j. fifth pipe means connecting said second end of said third valve means to said first end of said fourth valve means; and,

k. sixth pipe means connecting said second end of said fourth valve means to said second portion of said tank.

2. (Original) The thermal reservoir of Claim 1 wherein said tank means is comprised of a cylindrically shaped tank having a first end, a second end, a longitude disposed therebetween, and a piston movably disposed along said longitude of said tank.

3. (Original) The thermal reservoir of Claim 2 wherein said thermal reservoir is comprised of a plurality of tanks fluidly connected in parallel, each of which said tanks is cylindrically shaped, has a first end, a second end, a longitude disposed therebetween and a piston movably disposed along said longitude thereof.

4. (Original) The thermal reservoir of Claim 1 wherein said tank means is divided into said first and second portions thereof by an elastic membrane.
5. (Canceled) The thermal reservoir of Claim 1 wherein said tank means is comprised of a first tank which is dedicated to receiving and discharge of hot water and a second tank which is dedicated to receiving and discharge of cold water.
6. (Currently Amended) The thermal reservoir of Claim 1 wherein said thermal reservoir is fluidly connected in parallel with said means to heat and means to chill water of said two-pipe hydronic air-conditioning system.

The thermal reservoir of Claim 1 wherein said second pipe means is fluidly connected to one of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system and said fifth pipe means is fluidly connected to the other of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system.

7. (Currently Amended) The thermal reservoir of Claim 2 wherein said thermal reservoir is fluidly connected in parallel with said means to heat and means to chill water of said two-pipe hydronic air-conditioning system.

The thermal reservoir of Claim 2 wherein said second pipe means is fluidly connected to one of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system and said fifth pipe means is fluidly connected to the other of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system.

8. (Currently Amended) The thermal reservoir of Claim 3 wherein said thermal reservoir is fluidly connected in parallel with said means to heat and means to chill water of said two-pipe hydronic air-conditioning system.

The thermal reservoir of Claim 3 wherein said second pipe means is fluidly connected to one of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system and said fifth pipe means is fluidly connected to the other of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system.

9. (Currently Amended) The thermal reservoir of Claim 4 wherein said thermal reservoir is fluidly connected in parallel with said means to heat and means to chill water of said two-pipe hydronic air-conditioning system.

The thermal reservoir of Claim 4 wherein said second pipe means is fluidly connected to one of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system and said fifth pipe means is fluidly connected to the other of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system.

10. (Currently Amended) The thermal reservoir of Claim 5 wherein said thermal reservoir is fluidly connected in parallel with said means to heat and means to chill water of said two-pipe hydronic air-conditioning system.

The thermal reservoir of Claim 5 wherein said second pipe means is fluidly connected to one of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system and said fifth pipe means is fluidly connected to the other of said ends of said means to condition the temperature of said volume of water of said two-pipe hydronic air-conditioning system.

11. (Original) The thermal reservoir of Claim 1 wherein said thermal reservoir is fluidly connected in series with a portion of said supply line of said two-pipe hydronic air-conditioning system.

12. (Original) The thermal reservoir of Claim 2 wherein said thermal reservoir is fluidly connected in series with a portion of said supply line of said two-pipe hydronic air-conditioning system.

13. (Original) The thermal reservoir of Claim 3 wherein said thermal reservoir is fluidly connected in series with a portion of said supply line of said two-pipe hydronic air-conditioning system.

14. (Original) The thermal reservoir of Claim 4 wherein said thermal reservoir is fluidly connected in series with a portion of said supply line of said two-pipe hydronic air-conditioning system.

15. (Original) The thermal reservoir of Claim 5 wherein said thermal reservoir is fluidly connected in series with a portion of said supply line of said two-pipe hydronic air-conditioning system.